

Amendments to and Listing of the Claims:

24. (Currently amended) A form, fill and seal packaging machine for forming, filling and sealing a carton, the machine configured to mold a closure directly onto the carton, the machine comprising:

a carton erection station, the carton erection station adapted to receive a carton in a generally flat form and erect the flat form carton into a tubular form defining an internal carton region;

a direct injection molding station having a mold tool having an internal mold tool and an external mold tool, the internal mold tool configured for receipt within the internal carton region, the internal mold tool and the external mold tool configured to receive and clamp the carton therebetween, the direct injection molding station further including a polymer injection system for injecting polymer from a location external of the carton to the mold tool, wherein a closure is directly molded in place on the carton, wherein the external tool is configured to move between a first position in which the external mold tool is disengaged from the internal mold tool and a second position in which the external mold tool is engaged with the internal mold tool with the carton disposed therebetween, the external mold tool being formed having first and second portions configured to move toward one another when the external mold tool moves to the second position, and away from one another when the external mold tool moves to the first position;

a filling station for filling the carton; and

a sealing station for forming a seal on the carton.

25-26. Cancelled

27. (Previously presented) The form, fill and seal packaging machine in accordance with claim 24, wherein the internal mold tool includes cooling channels.

28. (Previously presented) The form, fill and seal packaging

machine in accordance with claim 27, wherein the cooling channels are formed having a V-shaped configuration.

29. (Previously presented) The form, fill and seal packaging machine in accordance with claim 24, wherein the direct injection molding station includes a frame mountable to the packaging machine, and wherein the frame includes a mandrel on which the carton is mounted during molding of the closure.

30. (Previously presented) The form, fill and seal packaging machine in accordance with claim 29, wherein the internal mold tool is mounted to the mandrel.

31. (Currently amended) A direct injection molding station for use on a form, fill and seal packaging machine for forming, filling and sealing a carton, the molding station being configured to mold a closure on a predetermined portion of the carton, the molding station comprising:

a frame;

a mold tool set including a first mold tool and a second mold tool, the first mold tool carried by the frame and having cooling channels formed therein in flow communication with channels formed in the frame for supplying a coolant to the cooling channels, the second mold tool carried by the frame, the second mold tool being movable between a first position wherein the second mold tool is disengaged from the first mold tool and a second position in which the second mold tool is engaged with the first mold tool with the carton disposed therebetween, the second mold tool being formed having first and second portions configured to move toward one another when the second mold tool moves to the second position, and away from one another when the second mold tool moves to the first position;

a polymer injection system including a polymer flow conduit for providing polymer from a location external of the carton to the mold tool set, wherein a closure is directly molded at the predetermined portion of the carton.

32. (Previously presented) The direct injection molding station in accordance with claim 31, wherein the cooling channels in the first mold tool are formed having a V-shaped path.